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THE RELATION OF THE PROSTATE TO CHRONIC URETHRAL DISCHARGE.[1]

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The very general acceptance by genito-urinary specialists, and by the profession at large, of the modern views regarding the importance of strictures of large calibre, while productive of great benefit to large numbers of patients, has, in my opinion, in a somewhat exceptional class of cases led to a distinct disadvantage. The recognition of the importance of the frequency of such strictures as a cause of gleet, and the valuable teachings of Dr. Otis and his disciples, which have marked a new era in the surgery of the urethra, have naturally led to a disposition on the part of both surgeons and general practitioners to seek for such strictures in all cases of chronic urethral discharge. While I have for years been an earnest advocate of the theories of urethral pathology involved in these teachings (though accepting them in a somewhat modified form), I am constrained to admit that in no form of diagnostic research is a thorough examination more richly rewarded. Except in the most skilful and experienced hands, the instruments which are chiefly relied upon to establish the existence of strictures of large calibre are liable to be misleading. Especially is this the case as regards the examination of the deep urethra. I called attention years ago[2] to the fact that at a point in the urethra varying from five-and-a-half to seven-and-a-half inches from the meatus, the *bougie à-boule* will infallibly be stopped or obstructed during its withdrawal from the bladder in even the most healthy urethra. The sensation imparted to the hand of the surgeon at this point is precisely that which is felt when the instrument passes a true pathological contraction of the canal. I demonstrated

1 Read before the American Association of Genito-Urinary Surgeons, at Newport, 1889.
2 Philadelphia Medical Times, 1878.

by experiment and dissection that this resistance was not due to spasm of the compressor urethræ muscle, but arose from the contact of the bulb of the instrument with the posterior layer of the triangular ligament.

Ten years' additional experience and observation have confirmed me in these views, and I am prepared to state that with either the acorn-headed bougie or with the Otis urethra-meter it is impossible to withdraw the instrument from the bladder to the penile urethra without passing a point of recognizable obstruction. This is physiological and invariable, and has unquestionably led, in many cases, to the diagnosis and treatment of non-existent strictures.

Dr. Robert F. Weir[1] had previously, in an excellent article upon the normal urethra and its contractions, asserted that our heretofore relied upon methods of exploration are not sufficiently trustworthy for us to distinguish between the normal and abnormal variations of the urethra, certainly from about number twenty-nine of the French scale, upwards, alluding particularly to occasional apparent constrictions and duplicatures of mucous membrane existing in the spongy portion of the urethra. Dr. H. B. Sands[2] says that a similar deceptive sensation may arise from the deviation of the sound from the axis of the canal, from spasmodic contraction of the muscular fibres which surround the urethra, or from a puckering of its mucous membrane before the instrument. Both these gentlemen confirmed by casts of the urethra the variations in size and dilatability of its different portions, which Everard, Home, Du Camp, Raybard, Guthrie, Quekett, and others, had long ago shown to exist. There is also a difference in elasticity in the various portions of the spongy urethra, to which Civiale called attention in the first half of this century, fixing the point of greatest diminution of elasticity at the middle of the penile urethra.

For this and other reasons, I believe that the diagnosis of urethral stricture is sometimes, and perhaps not very infrequently, made when no such stricture exists, and that accordingly urethral discharges have often been improperly referred to such non-existent stricture.

On the other hand the teachings of Müller, Guthrie, Hancock, Kölliker, and especially of Ultzmann and Thompson, in reference to the sphincteric function of the compressor urethræ muscle, have had great weight in excluding inflammation of the prostatic region from the list of probable causes of chronic muco-purulent discharges appearing at the meatus. Thompson says, for example, that the anterior border of the compressor muscle forms the true urinary outlet in the male as it does in the female; all that exists beyond it being in fact a male intromittent organ; so that the prolongation of the urethra is merely a condition dependent upon the necessity which exists for the accomplishment of the sexual function. He adds that there cannot be much doubt that the membranous part of the urethra, in health, is closed by the action of the compressor urethræ muscle, which deserves the title of sphincter urethræ. Ultzmann long ago described the prostatic urethra as the true neck of the bladder, which he would include between two sphincters, the internal at the vesical orifice, the external being the compressor urethræ. The latter he believed to be

[1] New York Medical Journal, April, 1876. [2] Ibid.

much the more powerful in its resistance to either fluid injected from without, or to the passage of urine or other liquids from within outwards. He believes the discharges which appear at the meatus to be due to the existence of inflammation somewhere in front of the triangular ligament, while those which are found in the urine are to be referred to inflammation posterior to that point.

Of the general truth of these views there cannot be the slightest question. The uninterrupted continuity of the prostatic and urethral muscles with those of the neck of the bladder, the fact that the trigone vesicæ extends deeply into the prostate, and the power of the compressor urethræ to exercise independent contraction as shown by its function during seminal ejaculation, all point in the same direction. I believe, however, that while the compressor urethræ does act as a supplementary sphincter, aids in the retention of urine and usually guides toward the bladder the secretions arising posterior to it, yet it does not form an absolute barrier to the escape of such discharges in the opposite direction.

The above causes, namely, the ease with which apparent urethral contractions can be found in all cases, and the theory that urethral discharge appearing at the meatus is almost certainly due to inflammation anterior to the prostatic urethra, have led, in my opinion, to the practical neglect of a condition which is the cause of a much larger proportion of chronic gleets than is generally supposed. Follicular prostatitis, variously described as prostatorrhœa or chronic prostatitis, is perhaps the most common sequel of gonorrhœa, but is too often overlooked as a cause of chronic discharge; even those writers who do allude to it considering it necessary to suggest that when it is accompanied by a discharge appearing at the meatus, the inflammation must also extend forward towards the anterior portion of the urethra.[1] Sir Henry Thompson, to be sure, mentions a gleety discharge from the urethra as a symptom of chronic prostatitis, and Keyes says that the "main feature of the disease is a slight oozing from the meatus, muco-purulent in character." Writing of prostatic hypertrophy the same writer mentions the little gleety discharge which may often be found at the meatus, and which originates from the congested surface of the prostatic urethra. Harrison[2] describes prostatorrhœa as consisting essentially in the flow of a clear viscid fluid from the urethra, which he elsewhere designates as a "gleety discharge." Numerous other writers upon this subject take the same view, which clearly indicates that whatever may be the theoretical opinions based solely upon anatomical grounds, the clinical evidence points to the existence of chronic urethral discharge taking its origin from the prostatic urethra.

Such cases in practice usually come to me with a history of a persistent gleet as the main symptom, for which they have often been treated most thoroughly and intelligently upon the theory of the existence of urethral stricture of large calibre. Injections of various kinds have been used, bougies of all sizes passed, and all known anti-blenorrhagics have been taken by the mouth. The additional symptoms of the condition of which I am speaking are easily

[1] Tilden and Watson, on Chronic Prostatitis, Boston Medical and Surgical Journal, May 21st, 1885; W. H. Danforth, Northwestern Lancet, May 15th, 1886, and others.

[2] International Encyclopædia of Surgery.

understood in their relation to the anatomical and pathological surroundings of the prostate, and are, of course, familiar to the distinguished gentlemen who constitute my present audience. They were long ago clinically described by Professor Samuel D. Gross, to whom we owe our first systematic classification of this condition, and have since been repeatedly recorded by other writers. The chief diagnostic points are, in my opinion, as follows:—

1. Undue frequency of micturition, with pain felt in or near the end of the penis at the conclusion of the act. The prostatic nerve plexus, supplying the vesical neck and the gland itself, becomes the cavernous plexus, and is continued to the end of the penis, terminating at the proximal side of the fossa navicularis. This nervous supply sufficiently explains the above symptom.

2. The feeling of weight or of fulness in the perineum and rectum, sometimes amounting to absolute pain, especially during the passage of hardened feces. The relations of the pelvic plexus of the sympathetic, which supplies the rectum as well as the skin of the buttocks, perineum, and external genitals, in addition to furnishing the nerves for the mucous surfaces and muscular portions of the bladder, prostate, and urethra, of course explain the occurrence of this symptom.

3. Diminution in the force of the stream of urine, associated with dribbling toward the end of the act. The frequency of this symptom convinces me that, in the majority of cases of this kind, the inflammatory trouble does not remain localized in the mucous membrane, but extends into the prostatic ducts and even into the substance of the gland itself. This is further shown by the fact that in the great majority of such cases the volume of the prostate, as examined through the rectum, is appreciably increased, while there is often slight tenderness upon pressure.

4. The first portion of urine passed, if collected in a glass, will be found more turbid than the second portion. This aids in diagnosticating the condition under consideration from a primary cystitis, although the symptom has not the practical value which Ultzmann has attached to it.

5. The sediment in the urine will be found to consist of prostatic epithelium, muco-pus, and a few mucous shreds. These are often associated with casts of the follicles and prostatic ducts, which are sometimes deceptively like hyaline casts of renal origin. This resemblance is most frequent in cases of chronic trouble, such as I am describing, but Sir Andrew Clark[1] has recorded a case of acute prostatitis in which such hyaline cylinders were moulds of the smaller prostatic ducts, and which he at first thought had originated in the kidneys. They were associated with flask-shaped hyaline moulds of the prostatic vesicles, which in conjunction with the symptoms enabled him to make the diagnosis, but he was quite positive that without these flask-like bodies there was no certain method of distinguishing the prostatic from the renal hyaline cylinders which occur in cases of acute renal congestion.

6. There is often, but not invariably, associated with those conditions a

[1] Transactions of the Clinical Society of London, vol. xix. 1886, p. 95.

certain amount of sexual excitability, frequent erection, and premature ejaculation during attempts at intercourse.

This group of symptoms is characteristic of the condition I am describing, and is not so apt to be found in uncomplicated cases of stricture of the urethra. I am satisfied, however, that the condition is frequently diagnosed and treated as one of gleet depending upon stricture, and that this remark is true not only of the average general practitioner, but likewise of surgeons of large experience and some pretensions as genito-urinary specialists. The great frequency of prostatic complications in cases of acute gonorrhœa, which has led Sir Henry Thompson to attribute all cases of retention of urine occurring in the course of that disease to prostatic swelling, and has caused Harrison to assert that in all cases of gonorrhœa there is some involvement of the prostate, renders this view still more probable. The treatment of such cases before they have come under my observation has almost invariably included the use of the steel sounds, either for the dilatation of a supposed stricture, or, if prostatic trouble has been recognized, for their direct effect upon it.

In those exceptional cases in which the prostatic mucous membrane is alone affected, without involvement of the gland itself, I have no doubt the passage of a full sized instrument, by emptying the congested and over-dilated vessels, is of marked benefit. I am equally satisfied, however, that in the majority of such cases as I am describing, in which the whole gland participates to a greater or less extent, the passage of a sound is productive of anything but beneficial effects.

I believe that attention to the following rules of treatment will give the most satisfactory results in a large proportion of cases :—

Limited diet, especially as regards nitrogenous articles of food ; abstinence from sexual excitement, particularly if ungratified ; great attention to the condition of the rectum, which should never be allowed to contain even for a few hours a mass of hardened inspissated feces. To avoid this I have found white-wheat gluten suppositories used at bedtime the most satisfactory method of treatment. There should be a free application of a mixture of tincture of iodine and tincture of belladonna to the perineum, repeated night and morning until the skin becomes exceedingly tender, and resuming it at once when the tenderness passes away. I believe this to be better than the actual blisters recommended by Sir Henry Thompson and others, on account of the long-continued irritation which can be kept up in this manner. Careful attention should be paid to the condition of the urine. As a routine treatment I am in the habit of using a mixture of bromide and citrate of potassium with small doses of aconite, belladonna, and ergot.

In addition to these various well-known methods of treatment, I desire to call especial attention to two which, though I have no claim to originality in their use, have possibly been employed in my practice more systematically and more extensively than is commonly the case in the treatment of this condition. The prostate is so situated anatomically that congestions and inflammations once occurring in it are powerfully favored by the influence of gravitation. In nearly every position of the body the prostate is at the lower extremity of a

portion of the circulatory system, which is peculiarly apt, in bipeds, to suffer from chronic congestion and vascular dilatation. Hemorrhoids are chiefly, if not exclusively, a disease of the human and anthropoid species, and prostatic hypertrophy, simply as a result of advancing years, is found almost entirely in this species, and is possibly due to the same cause. In all ordinary postures the blood which has found its way to the prostate must make its exit against the attraction of gravitation. Whenever we find this mechanical condition in the body we are apt to find also dilatation of the bloodvessels and hypertrophic tissue change. To prevent this, and to restore both the vessels and tissues to their normal size and calibre, I know of no better remedies than the application of cold, especially in the form of a je tor stream of water, and the employment of massage. In the cases in question I have for some time now been prescribing the persistent and thorough use of the bidet. I instruct the patient, if he lives in a large city, to have bidet pipes attached to his ordinary water-closet, with an arrangement for furnishing either hot or cold water. I then instruct him to use it for ten or fifteen minutes at least twice daily ; once after his usual evacuation of the bowels, and once before going to bed. It is well at both these times to wash out the rectum with tepid or warm water, and then to employ the cold jet directed against the perineum. The powerful contraction of all the muscular and vascular structures in the neighborhood is well shown in the effects of this treatment upon hemorrhoids, prolapsus ani, and similar conditions, and is participated in by the vessels and muscular structure of the prostate. There has been no one remedy which, in such cases, has given me such entire satisfaction. On *a priori* grounds, massage, as I have already said, would appear to be indicated in chronic prostatic congestion or inflammation. But the position of the gland has rendered it so apparently inaccessible to this method of treatment as to prevent its systematic employment by the profession. I have, however, for a year back instructed patients to anoint with carbolized oil the middle finger of one hand, to insert it directly into the rectum with the pulp of the finger upwards, and while in that position to make gentle diffused pressure upon the under surface of the prostate while keeping up counter-pressure with the fingers of the other hand through the perineum. The procedure is a disagreeable one, and it is difficult to persuade patients to carry it out with the requisite thoroughness, but I am sure that in some of the cases where they have done so I have seen a distinct improvement of symptoms which have been previously rebellious to other methods of treatment. I order the massage, performed in this way, to be kept up for periods varying from three to ten minutes twice daily according to the sensations of the patient and the amount of rectal or anal irritation excited by the introduction of the finger. This, however, I find to be very slight, and to occur but rarely if care is taken to insert the finger gently and to use no undue force in subsequent manipulations. I believe I have seen chronically inflamed and enlarged prostates reduced within two weeks to an extent which would, by other methods previously employed by me, have necessitated a much longer period of treatment. I have now used it in a number of cases, and consider it a valuable aid in the management of this condition. Finally, and as the necessary adjuvant to the foregoing treatment, I

insist upon the importance of position, which here, as in other cases of chronic congestions, is of immense importance. I advise all such patients to spend as much time as possible in the recumbent posture with the pelvis elevated so as to favor the flow of blood away from the organ, and instruct them to try to accustom themselves to sleeping at night with the head and shoulders low, and the hips slightly raised upon a folded blanket or upon a hair pillow. By these methods of treatment I have been greatly gratified in many cases of so-called incurable gleet which have come to me after long periods of treatment, sometimes extending over years, by procuring a rapid disappearance not only of the gleety discharge, which is often the chief source of anxiety to the patient, but also of the concomitant symptoms which have sometimes been so slight as to have hardly attracted his attention, and not infrequently could only be elicited by careful questioning.

I do not wish to be understood as claiming the slightest originality for either the recognition or the treatment of this condition. Dozens of writers have described essentially the same group of symptoms as characteristic of prostatorrhœa; the importance of passive congestion in the pathology of the gland was recognized by Sir Everard Home, who attributed senile hypertrophy of the prostate to the slow return of blood from the neck of the bladder, a view which was subsequently favored by several French surgeons. Thompson believes that the same cause, while not primarily responsible for the hypertrophy, very much influences both its extent and the rapidity of its occurrence.

The use of streams of cold water in affections involving the perineal and ano-rectal regions has long been recommended by surgical writers, and even the employment of massage, which I did believe to be entirely original with myself, I find, on looking up the literature of the subject, has already been recommended in chronic prostatitis, Dr. Reed,[1] of Ohio, stating that in this condition "occasional kneading of the gland through the rectum will not only aid in emptying the engorged ducts, but act as a gentle stimulant to the gland itself." I believe, however, that the large numbers of these cases and their frequent non-recognition make the subject of sufficient importance to warrant the *résumé* which I have had the honor of laying before you.

[1] Columbus Medical Journal, vol. iii. p. 108.